



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/754,296	01/05/2001	Fumio Tajima	381NP/43816CO	3393

7590 03/14/2002
CROWELL & MORING, LLP
INTELLECTUAL PROPERTY GROUP
P O BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER

NGUYEN, TRAN N

ART UNIT	PAPER NUMBER
----------	--------------

2834

DATE MAILED: 03/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/754,296

Applicant(s)
Tajima et al

Examiner
Nguyen, Tran N

Art Unit
2834



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 8, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-27 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-25 is/are rejected.
- 7) ☒ Claim(s) 26 and 27 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 08/946,581.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 14
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

Art Unit: 2834

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 18-19** are rejected under 35 U.S.C. 102(b) as being anticipated by JP7-20050 (hereafter JP'050).

JP'050 (figs. 1-3) disclose a permanent magnet electric rotary machine comprising: a stator (1) having winding (3); a rotor (4) having a plurality of permanent magnets (5) being inserted in insertion holes, wherein the magnets are arranged so that two magnetic gaps (6) are located in both sides of a peripheral direction of the magnets and between the permanent magnets and auxiliary magnetic poles. Inherently the air gaps between the magnet and the auxiliary magnetic poles change the flux density between the magnet and the auxiliary poles.

Art Unit: 2834

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 20-21 and 22-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'050 in view of Kliman (US5117553).

JP'050 discloses the claimed invention, except for the limitations of the following:

- (1) air gap is filled with nonmagnetic material, and
- (2) an electromotive vehicle comprising the PM machine of the claimed invention.

Kliman, however, teaches a permanent magnet (PM) rotor having PM elements (14a-d) embedded in the core slots, wherein the slot is provided with nonmagnetic material (20) to support the magnet and allow the use of premagnetized magnets.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the JP'050 PM rotor by providing nonmagnetic material to filled in the air gap, as taught by Kliman. Doing so would provide support for the magnet and improve mechanical integrity of the rotor.

Art Unit: 2834

Regarding the limitations of an electromotive vehicle comprising the PM machine of the claimed invention, those skilled in the art would know that electromotive vehicles are well known to employ an electric rotating machine with a PM rotor. Thus, it would have been obvious to one skilled in the art at the time the invention was made to employ the JP'050, in view of Kliman, in an electromotive vehicle. Doing so would require only routine skills of a worker in the art to determine a suitable applications of the machine.

Allowable Subject Matter

5. **Claims 26-27** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reason for Allowability

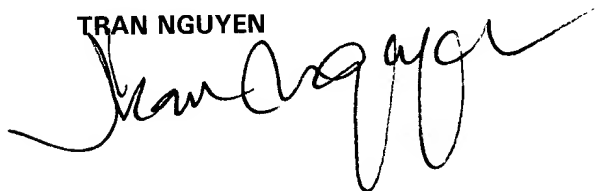
6. The following is an examiner's statement of reasons for allowance: the primary reason for the allowance is the including of the limitations of a permanent magnet electric rotary machine comprising: a rotor having a plurality of permanent magnets, wherein the magnet extends substantially the entire axial length of the rotor. JP'050, fig 2, shows that the magnet having length $\frac{1}{2} L$ of the entire axial length L of the rotor core. Thus, the above mentioned limitations are distinct from the prior art of the record.

Art Unit: 2834

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See FTO Form 892 for cited references.
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran Nguyen whose telephone number is (703) 308-1639.
9. Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-1782. The fax phone number for this Group is (703) 305-3431 (32).

TRAN NGUYEN

A handwritten signature in black ink, appearing to read 'Tran Nguyen', written over the printed name.

PRIMARY ATENT EXAMINER

TC-2800

March 7, 2002